

**EPA MOU Partner (TCT) Comments on
Deliverables Updated
By the Pre-RD Group**

Documents Reviewed and Commented on:

- Administrative Settlement Agreement and Order on Consent (ASAOC) with edits by the Pre-RD Group dated 10/12/17 and 10/18/17
- Scope of Work (SOW) with edits by the Pre-RD Group dated 10/18/17
- Draft Work Plan with edits dated 10/18/17 (text), 10/18/17 (tables), 10/16/17 (Appendix A through D). Figures were not been provided for review.

Yakama Nation Comments
(submitted 10-25-17)

**Yakama Nation Technical Comments for the
October 26, 2017 Dispute Resolution Meeting – YN & EPA
Portland Harbor NPL Site
Pre-Remedial Design and Baseline Sampling - ASAOC, SOW, and Work Plan**

The comments outlined below reflect the technical issues associated with the dispute resolution process and provide input into updated draft versions of the following Portland Harbor Pre-Remedial Design Investigation (PDI) and Baseline Sampling documents:

- Administrative Settlement Agreement and Order on Consent (ASAOC) with edits by the Pre-RD Group dated 10/12/17 and 10/18/17
- Scope of Work (SOW) with edits by the Pre-RD Group dated 10/18/17
- Draft Work Plan with edits dated 10/18/17 (text), 10/18/17 (tables), 10/16/17 (Appendix A through D). Figures have not been provided for review.

These are not our final comments since the documents themselves are incomplete (ex. work plan) and apparently do not reflect agreements EPA has made with the Pre-RD group (references to the food web model and risk assessment were supposed to be removed throughout the documents). The original EPA proposal for this work was a straightforward sampling effort with limited but clear objectives and clear approaches to meet those objectives. The revised documents include a much broader range of objectives, many of which are poorly described in scope, method or evaluation approach, but which commit EPA explicitly or implicitly to consider the results on par with EPA's own considered approaches. If allowed, these additional and undefined alternative interpretations risk compromising the carefully vetted approaches agreed to by many parties in the ROD. Without a valid baseline data set with clear and defensible objectives, the remedial action will contain fatal flaws that could be subject to challenge

EPA must make decisions founded on sound science moving forward with baseline and beyond. In the likely event of PRP-requested Record of Decision (ROD) modifications, EPA must rely on statistically sound data and multiple lines of evidence. This single PDI and Baseline Sampling event must not be considered a sufficient basis for ROD modification decisions.

Yakama Nation expects to see a draft final version of the PH PDI and Baseline Sampling document package for review prior to ASAOC signature.

ASAOC Comments

1. ASAOC deletes tribal funding requirements, which intentionally excludes tribal participation and oversight. This is a failure by EPA to uphold its trust responsibility, it emboldens potentially responsible parties (PRPs) to dismiss tribal participation, and sets a worrisome precedence for future legal agreements in the region.
2. ASAOC process has lacked meaningful engagement from Technical Coordinating Team (TCT), which includes the tribes, State, and other natural resource trustees with relevant technical expertise. In the early stages of negotiations significant changes were made to the document package without adequate opportunity to provide input. More recently, EPA has provided opportunity for TCT comments and engagement on the draft documents but it appears these comments may be falling on deaf ears. EPA should weigh equally the concerns of the TCT members against the wishes of the PRPs. Furthermore, EPA should also consider concerns raised by other PRPs (outside of the Pre-RD Group) before finalizing an agreement that will affect the entire Portland Harbor site.
3. ASAOC attaches the SOW and Work Plan. These should be removed as attachments to the ASAOC, considering EPA's desired fast track timeline for signing this agreement. The current Work Plan and SOW drafts do not reflect the agreements EPA has made with the PRPs regarding changes to the ROD and use of

data. The amount of time to carefully check the ASAOC, SOW, and Work Plan for language conformity and get agreements on all language with the Pre-RD group will likely take months. If the ASAOC is executed without having absolute clarity and language conformity in all documents it will lead to major disputes with the PRPs on the use of data and intent of studies. In addition, inclusion of inappropriate language may in the future be construed as endorsement by EPA of unintended uses and interpretations of the data.

4. ASAOC circumvents EPA Region 10 (those most knowledgeable about the site) with a dispute resolution appeal process decided by the EPA Administrator. Any appeal decisions must be science-based and avoid political influences in order to remain protective of human health, environment, and treaty resources.

SOW and Work Plan Comments

Sampling efforts must be used to support progress towards a cleanup that will be protective of the site and downstream resources for both ecological and human health.

1. Evaluation of baseline and future compliance must be grounded in remedial action objectives (RAOs), targets, and metrics identified in the ROD. EPA should strike references to any data collection or evaluation that is outside the purposes of the ROD, that contradict the ROD, or that are intended to reopen the ROD.

For example:

- a. Work Plan, section 1.3 – Pre-Remedial Design Data Use Objectives. We appreciate the language updates to this section; however, the following concerns remain:
 - i. Objective 4 - Any reference to the allocation process within the Work Plan, SOW, and ASAOC should be stricken. Per the ROD, the allocation process is not a monitoring objective. Having EPA approval of allocation-driven sampling in the baseline plans gives the appearance that EPA is aiding the Pre-RD Group in the allocation process. EPA is effectively, letting this group of PRPs use the CERCLA permit exemption to get data to be used against the other PRPs in litigation. We do not think that is going to instill a sense from the other 145 or more PRPs that EPA is making unbiased decisions and will only lead to controversy and delays. Instead, EPA should stay silent on the data uses outside of the ROD scope and the PRPs can use the data for other purposes as they see fit.
 - ii. Second Paragraph - The Pre-RD Group proposal includes open-ended language that would allow them to collect and use data for purposes data outside the scope of the ROD and PDI and baseline investigation. Agreeing to allow the PRPs to collect data without establishing clear and defensible data quality objectives (DQOs) as they relate to the ROD sets EPA up for significant disagreements and delays on how these data are used and risks reopening the ROD. Of course the PRPs can and will use the data for other purposes as they see fit, but EPA should stay silent on future uses outside of the ROD scope.
 - iii. Third paragraph – We appreciate the reference to EPA guidance (2002, Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites, OSWER Directive 9285.6-08); however, the PRPs must not misuse this guidance as a delay tactic to look backwards and reopen RI/RA/FS decisions. Rather, the guidance is clear that its intent is for moving forward to refine the conceptual site model (CSM) for remedial design purposes (ex. pilot studies, supporting phased/interim/early actions, etc.).
 - b. The updated Pre-RD Group proposal continues to appear to have the intent to reopen the RI/RA/FS to modify the ROD and contains language contradictory to the data use objectives outlined in Work Plan section 1.3 throughout the remainder of the Work Plan text, tables, and appendices and SOW. For example, re-evaluating the conceptual site model (CSM) based on reopening food web model (FWM), performing fish tracking studies to redo river segment configurations and spatially weighted average concentrations (SWACs), recalculating baseline risks, recalculating sediment background, and re-evaluating monitored natural recovery (MNR) are

clearly RI/RA/FS stage endeavors that are intended ROD reopeners. To find these ROD re-openers and contradictions search the SOW and Work Plan text, tables, and appendices for terms such as: FWM/food web model, bioaccumulation, segment, SWAC/spatially weighted average concentrations, angler, camera, background, MNR/natural recovery, reoccupation/re-occupied, and risk.

- c. We support the approach laid out in the ROD (i.e. 21 overlapping/rolling segments) to evaluate compliance on scales that are relevant to risk and exposure scenarios. However, in addition to the ROD spatial scales, the Pre-RD Group proposes evaluating sampling results based on nine larger river segments. We question whether the purpose and intended use of this approach is to reopen the ROD. Calculating surface weighted average sediment concentrations (SWACs) over these larger spatial scales will mask or dilute hotspots. We understand that anyone with access to the data that are generated from this baseline sampling effort can analyze it however they want, but this language and intent are contrary to the ROD should be stricken from this ASAOC and attached documents. Inclusion of this language appears to make alternative evaluations of the data equivalent to those stated in the ROD, opening the process to time consuming arguments over which interpretation is “better.”
 - d. The utility of the fish tracking survey at this point of the cleanup process appears to have only one intent and that is to make changes to the ROD by redefining river segments (exposure units) and recalculating SWACs (i.e. RAL curves) in order to shrink sediment management area (SMA) footprints. In addition, the Work Plan itself has no detail on how the study will be conducted, such as a minimum amount of fish to be tracked or how it will affect the timeline or logistics of fish tissue sampling. Without further detail on this study it gives the Pre-RD group an open book to bias a study that will result in a change the ROD. If this study were to go forward, much more detail needs to be put into the Work Plan regarding a verified protocol/SOP, minimum sampling requirements, and how the data will be evaluated, before it agreed upon. In addition, this type of a study will inherently cause the fish to act in a non-normal way due to the tag that has been attached to its body. So whatever results come out of this study would need to be analyzed in light of the existing work on small mouth bass home ranges.
 - e. EPA has reported that the angler camera survey has been removed from this ASAOC work but it is listed in section 3.1 and 3.3 of the SOW. Although this may be a typo, we expect that this survey will be removed from all documents in future versions of the ASAOC documents. If not, we must be notified immediately because there are major concerns associated with a study like this. The work plan (currently unavailable), validity of this method, privacy laws, treaty reserved rights (vs. current use), etc. must be considered in any PRP proposal of this method. In addition, the survey has the intent to re-evaluate ingestion rates, a ROD reopener.
- 2. Work plan sections 2.2 and 3.1 – The work plan establishes a point of compliance (POC) for surface sediments at 0-30 centimeters (cm) below mudline (bml). This cannot be done in this agreement. The ROD has not established POCs and it is the expectation of the TCT that we will be working on POCs for the site as a team. A separate document released by EPA, with TCT technical input, is the appropriate place to have POCs established, not via ASAOC negotiations. Although this interval is mentioned in the ROD for monitoring purposes and may be a starting point for sediment POC discussions, there are other considerations for establishing the surface sediment POC such as how to handle caps with armoring or the consideration of principal threat waste (PTW) below this depth. EPA must not allow this overly simplistic POC viewpoint to be codified.
 - 3. The work plan includes discussion of re-evaluating site background for various media. For sediments especially, this data use is in conflict with the ROD site equivalency evaluations. This data uses should be stricken and EPA should stay silent on future uses outside of the ROD scope.
 - 4. No one from EPA or TCT has been able to fully evaluate the Pre-RD Groups justifications on their approach for a stratified random surface sediment sampling configuration without figures and shape files containing grid polygons and randomly selected sample location data. As we understand it the stratified random

sampling that is being proposed can meet the TCTs goals of baseline sampling, but it has to be done in a specific way to be appropriate. The lack of information provided raises concerns about what the Pre-RD group is actually proposing. It is premature to approve their plan without adequate evaluation.

5. A single pre-RD/baseline event is not adequate for answering all of the questions about a long term monitoring program. This limited Pre-RD Group single sampling event has little to no mention of how it relates to future monitoring needs and plans. EPA needs to include a description of these future needs in the ASAOC documents in order to avoid a repeat of this unreasonable, Pre-RD Group-driven negotiation process.
 - a. A single pre-RD baseline event is insufficient for evaluating monitored natural recovery (MNR). For example, EPA's statistics consultant determined multiple forward-looking events (a minimum of 3 events post 2018 baseline sampling) were necessary to reliably evaluate MNR decay rates (see EPA's 5-22-17 Sampling Plan, Appendix A), and cautioned about the uncertainties of backward-looking MNR comparisons to biased, pre-baseline data. In addition, EPA must consider the variances typical of a dynamic river system as well as the objectives of past rounds of data and how they may introduce bias. For example, earlier rounds of sediment sampling focus on identifying hot spots and therefore concentrations are biased higher. Later rounds may have the objective of delineating the fringes of areas of concern or take more harbor-wide approaches, and would naturally be biased lower. In addition, other sediment cleanups and dredging within the Portland Harbor site have occurred in recent years. The comparisons of data for re-evaluating MNR for remedial design (and other) purposes must be based in robust and defensible science and use of statistics. The document package must clarify the need for additional rounds of MNR data collection in order to draw statistically sound forward-looking conclusions about decay rates.
 - b. Based on insufficiencies in data described above, evaluation of technology assignments or other ROD changes is preliminary. Data from this single baseline event should not be considered sufficient to switch technology assignments from active cleanup to MNR (doing nothing). These data must be looked at in combination with future events and multiple other lines of site evidence in order to provide confidence.
6. SOW and Work Plan deliverable, Pre-RD Footprint Report – Additional description is needed on what this report will include and how refined footprints will be determined in order to avoid disagreements and delays during the review phase.
7. SOW, Section 6.2 PDI schedule provides EPA only 45 days to review each of the Pre-RD Remedial Footprint and PDI Evaluation reports. Considering the larger implications of the Pre-RD Groups proposal to include additional, unapproved studies and reopen the RI/RA/FS and ROD, this seems like a completely inadequate timeline for EPA to provide review and comment. In addition, unless our concerns (above) are addressed about removing the topics such as FWM, fish tracking studies, and MNR evaluations to the baseline sampling, it is likely discussing these issues will eat through significant time to come to understanding and agreement on their intended uses and interpretations. EPA needs recognize and plan for the real risk that PRPs will submit out-of-scope data and evaluations that require evaluation of complex technical arguments for re-opening the ROD, and must be allowed reasonable and adequate time to review and respond. We support an expeditious cleanup, but not at the expense of adequate cleanup.
8. Lastly, EPA must consider the fact that a baseline and cleanup built on inappropriate science will not support the economics of the community, State, or industries affected by Portland Harbor. Nor will it result in reliable resolution of liability for the PRPs, their insurers, or their financial backers. A rocky baseline foundation will lead to an indefensible execution of the ROD cleanup and will most certainly open the door for future legal challenges.

Larger Perspective

1. We must remind EPA that PRPs have repeatedly and effectively thrown out final cost numbers as extraordinary or unreasonable in order to manipulate political and public opinions. What the PRPs fail to discuss, and EPA messaging has failed to adequately emphasize, is the equally alarming magnitude of this

site warrants the ROD cleanup and expense. Portland Harbor contamination affects greater than 10 river miles of the Willamette River and 2,190 acres of river bottom. Contaminant sources can be traced to over 150 PRPs, with several upland sources that would easily qualify for NPL listing on their own. Portland Harbor is the single largest contaminant source to the downstream Columbia River.

2. Considering the variances typical of a dynamic river system, EPA should seek additional sampling events prior to remedial action in other agreements to be able to assess remedy effectiveness vs. natural fluctuations in the river. EPA must dedicate resources to forward-looking, longer-term monitoring. For example, EPA's statistician recommended reoccurring sampling events (years 0 (the proposed Pre-RD Group event), 2, 5, 10, 15.....), with multiple purposes in mind (baseline, establishing MNR decay rates, evaluating effectiveness of early phases of cleanup, etc.). These next few sampling events are not that far out and funding, agreements, and sampling plans require thoughtful coordination and preparation. The original sampling proposal was partly predicated on such a long-term view discussed in detail in the document.
3. With respect to fish tissue, the Pre-RD Group's baseline sampling only includes sampling of small mouth bass. In future agreements EPA must include sampling and analysis of an adequate diversity of species to evaluate remedy effectiveness for protection of ecological and human receptors. Fish tissue sampling should include species with different life histories and migratory species consumed by humans. For example, lamprey, salmon, sturgeon, carp, and clam are consumed by tribal members and/or the public.
4. EPA should also consider the value of additional lines of evidence and how and when to best incorporate these sampling efforts into baseline or other stages of monitoring.

**Five Tribes Comments
(submitted 10-27-17)**

MEMORANDUM | October 27, 2017

TO Sean Sheldrake, United States Environmental Protection Agency (EPA)
FROM Dr. Rita Cabral, Gail Fricano, and Rachel DelVecchio (Industrial Economics, Inc.)
SUBJECT Review of Portland Harbor Pre-RD Group Draft Work Plan for Pre-Remedial Design Investigation Studies

PURPOSE

This memorandum provides comments on behalf of the Five Tribes¹ on the Pre-Remedial Design Investigation (Pre-RD) Group's draft work plan for pre-remedial design investigation (PDI) studies at the Portland Harbor Superfund site (redline of October 18 version compared to October 12 version, including tables and appendices). These comments supplement comments provided in our October 9 memorandum to Michelle Pirzadeh, EPA Regional Administrator. In general, we are encouraged by the changes that have been made to the current draft of the PDI work plan and the effort that EPA has put forward to address Technical Coordinating Team (TCT) concerns and retain key elements of the TCT's work plan.² However, several of the Five Tribes' significant points of disagreement with the PDI work plan remain unresolved. Where such concerns persist, we reiterate our position. We also include comments on additional issues identified during this more detailed review of the revised work plan.

OVERARCHING CONCERNs

The Five Tribes have several overarching concerns regarding the PDI work plan, as described below. We continue to have significant concerns regarding stipulations of the Administrative Settlement Agreement and Order on Consent (ASAOC). We do not restate those here but rather refer to our October 9 comments submitted to Michelle Pirzadeh. Further, the comments provided in this memorandum are intended to improve the work plan as negotiated between EPA and the Pre-RD Group to-date. We expect that EPA will continue to identify additional opportunities to conduct baseline and pre-remedial design sampling throughout the Portland Harbor Superfund Site (the Site).

1. Language remains in the work plan regarding inappropriate data use objectives and evaluations, including those aimed to reopen the Remedial

¹ The five tribes are the Confederated Tribes of the Grand Ronde Community of Oregon, the Nez Perce Tribe, the Confederated Tribes of Siletz Indians, the Confederated Tribes of the Umatilla Indian Reservation, and the Confederated Tribes of the Warm Springs Reservation of Oregon.

² Portland Harbor Superfund Site Sampling Plan for Pre-Remedial Design, Baseline, and Long-Term Monitoring. Prepared by EPA in Coordination with the TCT. Revised Working Draft.

June 6, 2017

Investigation/Feasibility Study (RI/FS) and/or Record of Decision (ROD). It is our understanding that the Pre-RD Group agreed to remove any such language in order to better align the goals of the work plan with those supported by the ROD. The Pre-RD Group and EPA together edited Sections 1.3, 3.3, and 3.4 to this end, but these changes have not been consistently carried throughout the work plan. Further, Appendix B has not been revised to reflect the changes to Sections 1.3, 3.3, and 3.4. Discrepancies between work plan text, tables, and appendices indicate a lack of attention to detail, likely the result of the expedited nature of negotiations. The Pre-RD Group should revise the work plan according to the changes made to Sections 1.3, 3.3, and 3.4 and provide a polished version of the work plan for EPA and TCT review. EPA must allocate sufficient time for EPA and the TCT to conduct a careful quality check on this more polished version of the work plan and for the Pre-RD Group to address any resulting comments prior to EPA signing the ASAOC in order to avoid confusion and disagreement when implementing the work plan regarding data use objectives and evaluations.

2. We strongly prefer that EPA generate sampling locations based on the Pre-RD Group's sample cells, versus relying upon the Pre-RD Group's version of the sampling station maps. EPA would randomly select one point per sample cell as the primary sample location, as well as two randomly selected back-up locations. However, if EPA does not generate the sampling locations, we expect EPA's statistical expert to review the sampling locations that were sent by the Pre-RD Group and provide his assessment (e.g., whether the sampling locations were likely to be randomly generated within each cell). The TCT will then be provided an opportunity to review his assessment and provide any additional comments. TCT feedback will be incorporated into negotiations with the Pre-RD Group prior to EPA's signing of the ASAOC. This approach was agreed to on the October 19 TCT call. It is imperative that EPA not sign the ASAOC until the statistical expert has had sufficient time to review Appendix B and the station location map, and the TCT has had time to provide any additional feedback based on the statistician's review. The success of baseline sampling and accurate assessment of recovery progress post-construction hinges on this aspect of the PDI work plan; its importance cannot be overstated.

SPECIFIC COMMENTS ON PDI WORK PLAN

WORK PLAN TEXT

3. We continue to disagree with a number of stated data uses in the PDI work plan. The primary purposes of this ASAOC are to delineate sediment management areas for the purpose of allocation and to collect baseline data pre-construction to facilitate long-term monitoring. Thus, the following stated objectives are not appropriate for the type or extent of proposed data collection:

- a. P. 6 – “...to determine human health risks...”
- b. P. 15 – “...the PDI objective is to evaluate background concentrations of COCs [contaminants of concern] coming into the Site ...”
- c. P. 17 – “The goals of new surface sediment data collection are to: re-baseline the river bed to establish current conditions and SWACs [Spatially Weighted Average Concentrations], ...evaluate natural recovery changes since 2004...”
- d. P. 18 – “One additional use of the new data (along with the fish tracking results and determination of SMB [smallmouth bass] home ranges) will be to confirm the representativeness of these segment delineations, then estimate SWACs Site-wide and at other spatial scales.”
- e. P. 20 – “The study includes collection of synoptic SMB data to re-baseline resident fish tissue concentrations in the river, evaluate MNR [monitored natural recovery] changes, refine the understanding of the FWM [food web model], and update human health fish consumption risks.”
- f. P. 26 – “...refine the SWAC segments used to evaluate changes in surface sediment concentrations...”
- g. P. 28 – “...(iii) refine background concentrations of COCs in surface sediments reflective of an urban background; and (iv) further inform achievable remedy targets/ actions if appropriate.”

Several of the stated objectives would require multiple rounds of baseline and/or long-term monitoring sampling data to accurately evaluate (e.g., evaluate natural recovery, further inform achievable remedy targets). Other objectives would likely require reopening the RI/FS and/or ROD (e.g., recalculating risk, redefining spatial scales for data evaluation), which would significantly delay remedy implementation. For instance, per sub-part “e.” above, it appears to still be the intent of the Pre-RD Group to re-examine the FWM and risk, despite the fact that this language was removed from objective number six (work plan, p. 5). These unacceptable data uses must be removed from the work plan.

4. References to allocation should be removed from the work plan. The work plan already states that collected data may be used for other analyses by the Pre-RD Group, so it is unnecessary and potentially problematic to include explicit reference to allocation. Allocation is a process that EPA does not typically play a role in and therefore cannot determine whether the proposed data collection effort is adequate for this purpose. Further, including references to allocation in this work plan may set an undesirable precedent of other potentially responsible parties expecting EPA approval of their allocation sampling work plans. If

references to allocation must remain in the work plan, the adequacy of the data for this purpose should be qualified. For example, the work plan currently states that data will “support and advance PCI allocation...” (p. 33). If references to allocation must remain, this text should be changed to “provide analyses that may be used for PCI allocation...”

5. EPA noted spatial scales for data evaluation that support the ROD decision framework. These scales include Site-wide, rolling river mile (RM) one-side, and sediment decision units (SDU) for a total of up to 21 segments (10 river mile segments with east and west side, plus Swan Island Lagoon). The PDI work plan includes additional spatial scales, including 2- to 3-mile river segments (nine segments). We acknowledge that the ASAOC does not preclude the Pre-RD Group from analyzing the data as they see fit (work plan, p. 5). However, analyses that are inconsistent with the ROD should not be described in the work plan, as it implies EPA support of or concurrence with these methods. Therefore, reference to the nine segments, as well as any other spatial scales that are inconsistent with the ROD, should be deleted.
6. The fish acoustic tracking study (described in Section 3.2.6) has limited utility for implementing the ROD and is more likely to serve as a means for the Pre-RD Group to attempt to challenge the spatial scales of SWAC evaluation. This study should be removed from the work plan. If it is not possible to remove the study, then several key concerns should be addressed. First, there is a notable lack of detail provided on the fish acoustic tracking study (Section 3.2.6). If the PDI work plan document is truly meant to serve as a work plan, we require a map of receiver locations, information about the type of acoustic receiver being used, and data processing methods, at the very least. Second, we question the feasibility of such a study. The pilot study was only conducted for one week. Will conditions be encountered over the course of a full year that would prevent the receivers from remaining installed for the duration of the study? For example, will the receivers be placed in areas that are susceptible to ship traffic, maintenance dredging, or other activities? How resilient are the receivers in the face of flood events, prop scour, and other disturbance? Third, it is likely that over the course of a year that tagged SMB may be consumed by other wildlife and/or humans. How would this loss of data be accounted for? These questions should be addressed in Section 3.2.6.
7. The PDI work plan states more than once that the data will be evaluated for the purpose of potentially focusing the list of COCs for future monitoring events (e.g., work plan, p. 10). It is our understanding that this sort of consideration would be given only to monitoring events post-construction, not generally for future monitoring events (i.e., during construction). It is important to monitor for all COCs through construction since many areas of the river will be remediated at

different times, thus posing a recontamination risk to areas that may have already had the remedy implemented. If the full suite of COCs is not maintained through construction, we question how recontamination of these areas would be identified and adaptive management strategies initiated. Language regarding potentially focusing the list of COCs should be deleted.

8. We disagree with the use of the term “re-baseline” that is used throughout the PDI work plan. Baseline has not yet been established, so it is not possible to “re-baseline” the site. Further, it is our understanding that the baseline data will be used to assess long-term trends along with the RI/FS data. In other words, the subject baseline event represents a second “snapshot” in time rather than a replacement of the RI/FS data set. Also, the statement that spatial patterns would be assessed “without reliance on older data” is too broad. Use of older data should not be ruled out, for instance, focused data collection efforts for early action sites. We request that the phrase “without reliance on older data” be removed.
9. Section 3.3 states that the PDI Evaluation Report will include “Re-calculation of surface sediment SWACs for focused COCs using new data at several spatial scales (river mile, segment, SDU, and site-wide)” (work plan, p. 32). In a previous version of the PDI work plan, this statement did not specify “focused” COCs. We question why this calculation would not be done for all COCs.

TABLES

10. The tables should summarize what is described in-text. Therefore, we do not attempt to repeat comments regarding the same topics that were noted in text, but that are also presented in the tables. We assume that changes made to the text would cascade to table updates. However, as described above, the TCT must be provided an opportunity to carefully review the revised work plan to ensure that these changes are appropriately made to the tables. Additional comments on the tables include the following:
 - a. Table 1 of the PDI work plan states that the bathymetric survey would be used to run through the decision tree. We question what the Pre-RD Group means by this since the only decision point for erosivity is related to riverbank areas.
 - b. Table 1 references eight segments, plus Swan Island, for surface sediment sampling. We maintain the position that this is not in line with the ROD, and 21 segments should be evaluated. This language also appears to be at odds with the spatial scales described in Section 3.2.2.
 - c. We disagree that the Pre-RD Group can evaluate recovery changes, as described in project goal number three in Table 4, based on a comparison

of RI/FS data to the current sampling event alone. Multiple rounds of sampling would be required to provide statistical power sufficient to establish a recovery curve.

- d. We recommend that Table 5 be removed from the work plan. The table is complex and may not be consistent with the text of the work plan and/or appropriate data uses. If the table must be retained, EPA staff and their experts should carefully review the data uses to ensure that they are appropriate.

APPENDIX A

11. Section 2.3 and the associated Appendix A report on several studies that are not based on EPA-approved work plans, and the stated conclusions are not necessarily supported by EPA. We recommend including a caveat within the work plan and Appendix A to state that the conclusions reported are the Pre-RD Group's opinions and their inclusion in the work plan and appendix does not constitute endorsement or acceptance by EPA.

APPENDIX B

12. During our review, several revised versions of work plan materials were provided to the TCT. However, an updated Appendix B was not provided, and a number of inappropriate data uses are still described. Appendix B must be updated to reflect the changes made to the work plan, and a polished version of the appendix must be provided for TCT review (see comment number one). Such instances include:
 - a. P. B-1 – “Additionally, the sampling plan is sufficient to meet the needs of the Pre-RD group in evaluating natural recovery since 2004 and developing statistically robust Spatially Weighted Average Concentrations (SWACs) on Site-wide and other spatial scales.”
 - b. P. B-5 – “Some of these placements may be co-located with sample locations sampled in 2004.”
 - c. P. B-6 – “...enable additional re-occupations of locations sampled in 2004.”
 - d. P. B-9 – “...at the scale of evaluation (8 segments plus Swan Island Lagoon...”
 - e. The entire section starting on p. B-10 – “The Plan is Sufficient for Comparing Differences in Concentrations Since 2004”
 - f. The entire section starting on p. B-11 – “The Plan is Sufficient for PCB Natural Recovery Power Analysis”

- g. P. B-12 – “Differences in sediment concentrations (including SWAC and other data expressions) between 2004 and 2018 will be statistically detectable ($\alpha = 0.05$) at an approximate 0.8 level of statistical power, assuming concentrations have decreased approximately 25-40% or more since 2004.”

As discussed in comment number three, several of the stated objectives would require multiple rounds of baseline sampling data to accurately evaluate. Further, the revised work plan language already allows for Pre-RD Group data uses that are outside the scope of the analyses that EPA plans to conduct at this time. Therefore, the above examples should be removed from Appendix B in order to avoid the misconception that EPA agrees with the Pre-RD Group’s methods or approach to these matters.

13. We question why the Pre-RD Group defines sample cells that are different than the regions within the Site that are defined in the ROD. For example, they define shoal cells, navigational cells, and inlet cells. Why not maintain consistency with the ROD by using the shallow region, intermediate region, future maintenance dredge areas, and navigation channel? Do the shoal cells encapsulate the shallow and intermediate regions and future maintenance dredge areas? If so, this should be clearly stated. Per comment number two, we urge EPA to utilize the expertise of their statistician to thoroughly evaluate the Pre-RD Group’s proposed sampling approach, including the sampling location map that was provided.

SECONDARY COMMENTS

14. The PDI work plan opens the introduction by stating the ROD “described a post-ROD sampling effort for the Site to delineate and better refine the sediment management area (SMA) footprints, refine the Conceptual Site Model (CSM), determine baseline conditions, and support remedial design.” Though we were able to locate “delineate the SMAs” in the ROD (ROD, p. 74), the other stated aspects appear to be less obvious. We recommend including page numbers wherever possible to adequately support the statements made in the PDI work plan, as some statements appear to be made without basis.
15. Section 2.1 of the PDI work plan describes the physical conditions of the Site. However, there is a clear bias towards describing depositional environments within the Site. We recommend including a description of erosional areas and the existence of prop wash scour in this section of the PDI work plan to make the description more balanced and representative of the Site.
16. Section 1.1 describes the Site as extending from RM 1.9 to RM 11.8. However, the ROD states that the Site is characterized by an in-river and upland portion. This should be clarified in the PDI work plan text.

17. The phrase “desired by EPA” should be replaced with “as required by the ROD” in the following statement: “...the scope was expanded to address several baseline study elements desired by EPA” (work plan, p. 3).
18. The Upriver Reach is defined as RM 16.6 to RM 28.4; however, ROD Figure 7 reports this reach as RM 16.7 to RM 28.4.

Oregon DEQ Comments
(submitted 10-27-17)



Oregon

Kate Brown, Governor

Department of Environmental Quality

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October 27, 2017

Ms. Michelle Pirzadeh, Acting Regional Administrator
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue Suite 900
M/S ECL-122, Seattle, WA 98101

By Email

**RE: Pre-Remedial Design Investigation
Portland Harbor Pre-RD Group
Portland Harbor Superfund Site**

Acting Regional Administrator Pirzadeh:

The Oregon Department of Environmental Quality (DEQ) has reviewed draft documents pertaining to the proposed Pre-Remedial Design Investigation (PDI) Studies for the Portland Harbor Superfund Site (site). These consist of:

- Administrative Order on Consent, redline dated 10-18-17 (AOC)
- Statement of Work, redline dated 10-24-17 (SOW)
- Work Plan, redline dated 10-24-17
- Proposed 428-Grid Surface Sediment Sample Locations, dated 10-26-17

The documents are flagged by the negotiating parties (Respondents), the Pre-RD Group, as “confidential – settlement negotiations.”

DEQ’s concerns with these documents and the nature in which they were being prepared was initially communicated to you in a letter dated October 5, 2017.

DEQ appreciates the opportunity to conduct a formal review of these documents. We thank Sheryl Bilbrey and the EPA team for discussing these documents with us and other members of the Portland Harbor Technical Coordination Team (TCT) during meetings on October 10th, 17th, 19th and 25th.

The Pre-RD Group has made significant changes to the draft documents that were first provided to DEQ and the TCT on October 2nd. For example, the camera survey of anglers has been removed as well as a number of data use objectives and proposed scope items that DEQ does not

believe are necessary to implement the ROD remedy. These include recalibration of the Lower Willamette Group's Food Web Model (FWM), verification of the Remedial Action Levels (RALs) established in EPA's Record of Decision and refinement of human health consumption risks documented in the Lower Willamette Group's risk assessment. The Pre-RD Group also changed the locations of the surface sediment samples intended to establish baseline conditions, as opposed to SMA delineation, to the stratified random layout requested by EPA with input from the TCT.

DEQ recommends that the revised documents be finalized and the PDI Studies implemented. This recommendation is contingent on a determination by EPA's statistician John Kern (Kern Statistical Services, Inc.) that the Pre-RD Group's proposed surface sediment sample locations adequately satisfy the data quality objectives established in EPA's Draft Baseline Sampling Plan issued June 6, 2017:

- Comparison of post-remedial concentrations with baseline conditions – sample layout adequate to detect a 20% reduction in geometric mean concentration with at least 80% statistical power
- Temporal trend evaluation – sample layout adequate to detect a 5% annualized rate of change over a 10-year period with approximately 80% statistical power
- Equivalency evaluation – sample layout adequate to determine whether the upper 90% confidence limit for the ratio of site to upstream geometric means is less than 1.5 when site data are equivalent to upstream data (i.e. $R=1.0$)

DEQ remains concerned that the Pre-RD Group and others may attempt to stretch the use of the proposed data to draw conclusions that simply cannot be made before completion of active remediation (i.e., dredging, capping and enhanced natural recovery). For example, multiple years of data from multiple media (lines of evidence) will be needed before, during and after active remediation in order to verify the overall effectiveness of EPA's remedy including the rate of monitored natural recovery (MNR). Furthermore, these lines of evidence must corroborate, meaning that corresponding changes must be observed in surface sediment, fish tissue, surface water, sediment traps, etc. If these data indicate that Remedial Action Objectives (RAOs) cannot be achieved with the selected remedy in a reasonable period of time, it is DEQ's expectation that EPA will modify the remedy, which could include additional active remediation.

DEQ is also concerned that the Pre-RD Group's PDI Studies do not fill all data gaps necessary for baseline and long-term monitoring. Specifically, baseline data should be collected for carp tissue and a more extensive distribution of sediment traps within the site (i.e., collocated with surface water transects) as specified in EPA's draft baseline sampling plan. Additional rounds of baseline and long-term monitoring sampling also will be needed before meaningful conclusions

can be made. EPA should look to other potentially responsible parties to fill data gaps not addressed by the Pre-RD Group. Negotiations of documents such as sampling work plans, remedial design work plans and other technical documents should be done in an open, non-confidential setting with early and meaningful input from DEQ and the other TCT members, and with adequate oversight funding. Finally, if these conditions and expectations cannot be met, DEQ recommends that EPA discontinue negotiations with the Pre-RD Group.

Sincerely,



Richard Whitman, Director
Oregon Department of Environmental Quality

Cc: Jim Woolford, Director, EPA OSRTI
Sheryl Bilbrey, Director, EPA Office of Environmental Cleanup
Cyndy Mackey, Director, EPA Office of Site Remediation Enforcement
Davis Zhen, Manager, EPA Region 10 Site Cleanup Unit 2
Kevin Parrett, Manager, ODEQ Northwest Region Cleanup Program
Confederated Tribes and Bands of the Yakama Nation
Confederated Tribes of the Grand Ronde Community of Oregon
Confederated Tribes of Siletz Indians
Confederated Tribes of the Umatilla Indian Reservation
Confederated Tribes of the Warm Springs Reservation of Oregon
Nez Perce Tribe
National Oceanic and Atmospheric Administration
Oregon Department of Fish and Wildlife